

# Dr. Weiss's Opinions

- Adverse event reports cannot reliably be used to establish a causal relationship between gabapentin and suicide
- The FDA's AERS database does not support the finding of a signal for completed suicide or suicide attempt
- Dr. Blume's methodology for reviewing AERS data is flawed and not generally accepted
- The information in the AERS database for gabapentin and suicide is unreliable and therefore uninterpretable

# Sample MedWatch Form

U.S. Department of Health and Human Services  
**MEDWATCH**  
The FDA Safety Information and Adverse Event Reporting Program

For VOLUNTARY reporting of adverse events, product problems and product use errors

Form Approved, OMB No. 0910-0281 (Expires 12/31/2011)  
See OMB statement on review.

Page 1 of 1

**A. PATIENT INFORMATION**

1. Patient Name (Last, First, Middle Initial)  
a. Last  
b. First  
c. Middle Initial

2. Date of Birth (mm/dd/yyyy)  
a. Month  
b. Day  
c. Year

3. Sex  
a. Male  
b. Female

4. In conference  
a. Yes  
b. No

**B. ADVERSE EVENT, PRODUCT PROBLEM OR ERROR**

1. Adverse Event  
a. Yes  
b. No

2. Product Problem (e.g., defects/malfunctions)  
a. Yes  
b. No

3. Product Use Error  
a. Yes  
b. No

4. Outcomes Attributed to Adverse Event (Check all that apply)  
a. Death  
b. Disability or Permanent Damage  
c. Life-Threatening  
d. Hospitalization - initial or prolonged  
e. Other Serious (Important Medical Events)  
f. Required Intervention to Prevent Permanent Impairment/Damage (Devices)

5. Date of Event (mm/dd/yyyy)  
a. Month  
b. Day  
c. Year

6. Date of this Report (mm/dd/yyyy)  
a. Month  
b. Day  
c. Year

7. Describe Event, Problem or Product Use Error

8. Relevant Test/Laboratory Data, including Dates

9. Other Relevant History, including Preexisting Medical Conditions (e.g., allergies, race, pregnancy, smoking and alcohol use, liver/kidney problems, etc.)

**C. PRODUCT AVAILABILITY**

Product Available for Evaluation? (Do not send product to FDA)  
a. Yes  
b. No  
c. Returned to Manufacturer on: (mm/dd/yyyy)

**D. SUSPECT PRODUCT(S)**

1. Name, Strength, Manufacturer (from product label)  
a. Name  
b. Strength  
c. Manufacturer

2. Name, Strength, Manufacturer  
a. Name  
b. Strength  
c. Manufacturer

**E. SUSPECT MEDICAL DEVICE**

1. Brand Name

2. Common Device Name

3. Manufacturer Name, City and State

4. Model #  
a. Lot #  
b. Catalog #  
c. Serial #  
d. Other #

5. Operator of Device  
a. Health Professional  
b. Lay User/Patient  
c. Other

6. If Implanted, Give Date (mm/dd/yyyy)  
a. If Explanted, Give Date (mm/dd/yyyy)

7. Is this a Single-use Device that was Reprocessed and Reused on a Patient?  
a. Yes  
b. No

8. If Yes to Item No. 7, Enter Name and Address of Reprocessor

**F. OTHER (CONCOMITANT) MEDICAL PRODUCTS**

(Product name and strength dates provide treatment of event)

**G. REPORTER (See confidentiality section on back)**

1. Name and Address  
a. Name  
b. Address  
c. City  
d. State  
e. ZIP

2. Phone #  
a. Email

3. Health Professional? 3. Occupation  
a. Yes  
b. No

4. Also Reported to  
a. Manufacturer  
b. User Facility  
c. Distributor/Reporter

5. If you do NOT want your identity disclosed to the manufacturer, place an "X" in this box: ☐

FORM FDA 3500 (1/09) Submission of a report does not constitute an admission that medical personnel or the product caused or contributed to the event.

Submission of a report does not constitute an admission that medical personnel or the product caused or contributed to the event.

# Data Mining Cannot Establish Causation

March 2005



## Guidance for Industry

### Good Pharmacovigilance Practices and Pharmacoepidemiologic Assessment

U.S. Department of  
Health and Human Services  
Food and Drug Administration  
Center for Drug Evaluation and Research

#### Contain Nonbinding Recommendations

2. Demographic characteristics of patients with events (e.g., age, gender, race);
3. Exposure duration;
4. Time from initiation of product exposure to the adverse event;
5. Doses used in cases, including labeled doses, greater than labeled doses, and overdoses;
6. Use of concomitant medications;
7. The presence of co-morbid conditions, particularly those known to cause the adverse event, such as underlying hepatic or renal impairment;
8. The route of administration (e.g., oral vs. parenteral);
9. Lot numbers, if available, for products used in patients with events; and
10. Changes in event reporting rate over calendar time or product life cycle.

#### E. Use of Data Mining to Identify Product-Event Combinations

At various stages of risk identification and assessment, systematic examination of the reported adverse events by using statistical or mathematical tools, or so-called *data mining*, can provide additional information about the existence of an excess of adverse events reported for a product. By applying data mining techniques to large adverse event databases, such as FDA's AERS or VAERS, it may be possible to identify unusual or unexpected product-event combinations warranting further investigation. Data mining can be used to augment existing signal detection strategies and is especially useful for assessing patterns, time trends, and events associated with drug-drug interactions. **Data mining is not a tool for establishing causal attributions between products and adverse events.**

The methods of data mining currently in use usually generate a score comparing (1) the fraction of all reports for a particular event (e.g., liver failure) for a specific drug (i.e., the "observed reporting fraction") with (2) the fraction of reports for the same particular event for all drugs (i.e., the "expected reporting fraction").<sup>15</sup> This analysis can be refined by adjusting for aspects of reporting (e.g., the reporting year) or characteristics of the patient (e.g., age or gender) that might influence the amount of reporting. In addition, it may be possible to limit data mining to an analysis for drugs of a specific class or for drugs that are used to treat a particular disease.

The score (or statistic) generated by data mining quantifies the disproportionality between the observed and expected values for a given product-event combination. This score is compared to a threshold that is chosen by the analyst. A potential excess of adverse events is operationally defined as any product-event combination with a score exceeding the specified threshold. When

<sup>15</sup> Evans SJ. 2000. Pharmacovigilance: A science or faddish empiricism? *Statistics in Medicine* 19(23):2199-2006. Evans SJW, Waller PC, and Davis S. 2001. Use of proportional reporting ratios (PRRs) for signal generation from spontaneous adverse drug reaction reports. *Pharmacoepidemiology and Drug Safety* 10:403-6.

Data mining is not a tool for establishing causal attributions between products and adverse events.

Source: March 2005 FDA Guidance for Industry: Good Pharmacovigilance Practices and Pharmacoepidemiologic Assessment, Pg. 8

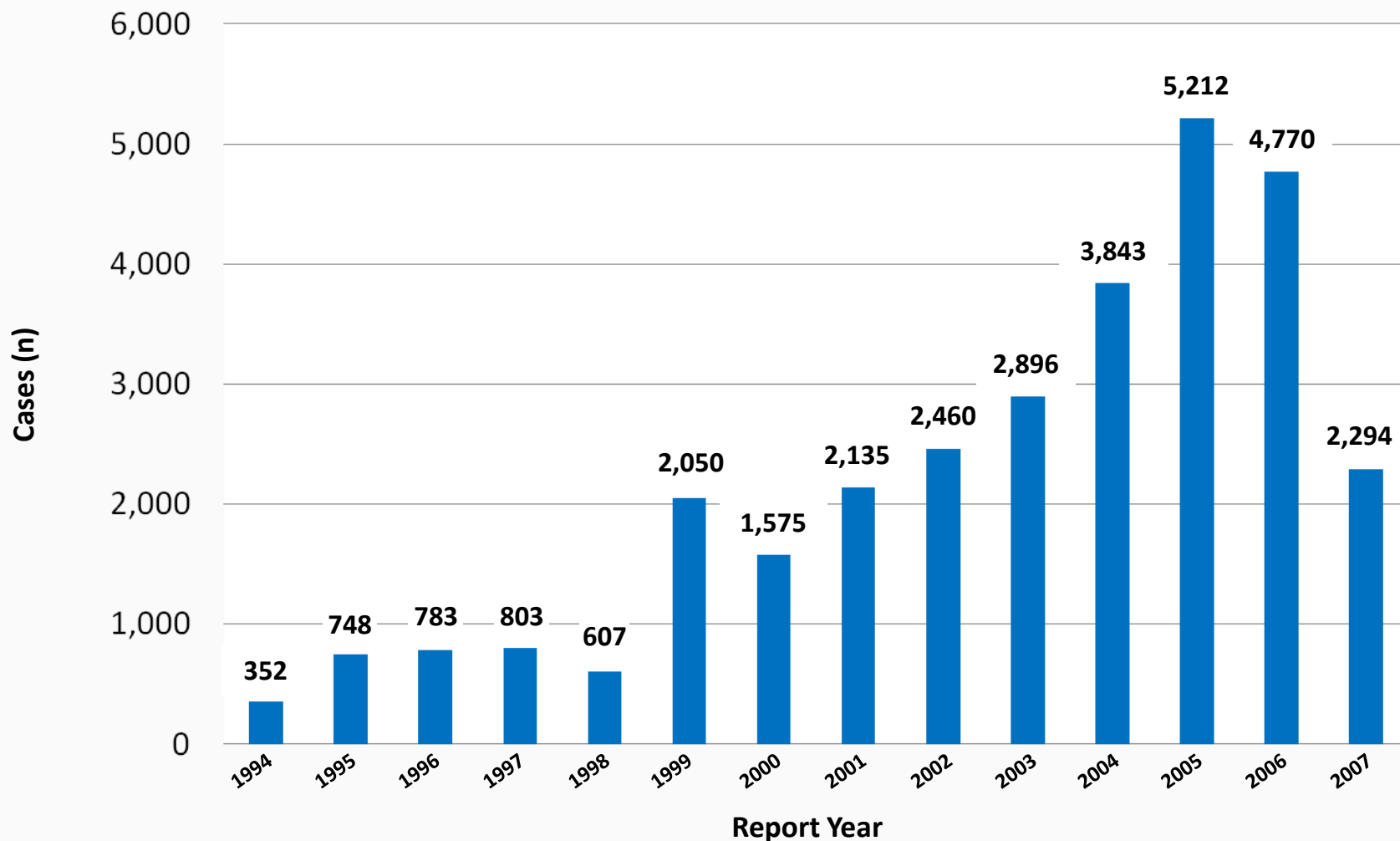
# Clinical Judgment Necessary For Review of Data Mining

March 2005

Proper interpretation also requires clinical judgment before one even considers there to be a signal.

Source: Brian L. Strom, M.D., MPH,  
Reply to Letter to the Editor, 293 JAMA (2005), Pg. 1325

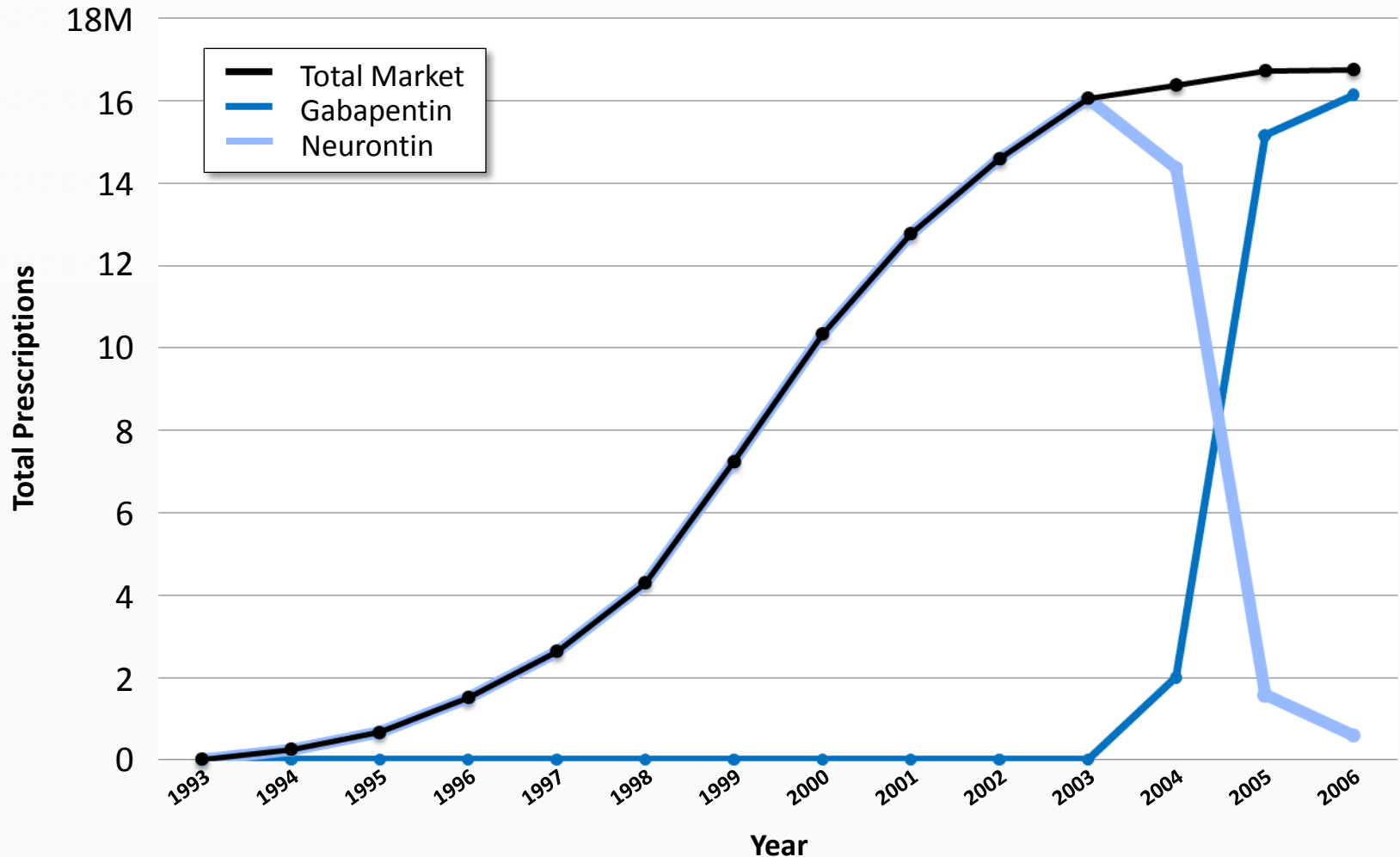
# Gabapentin Spontaneous Reports Over Time



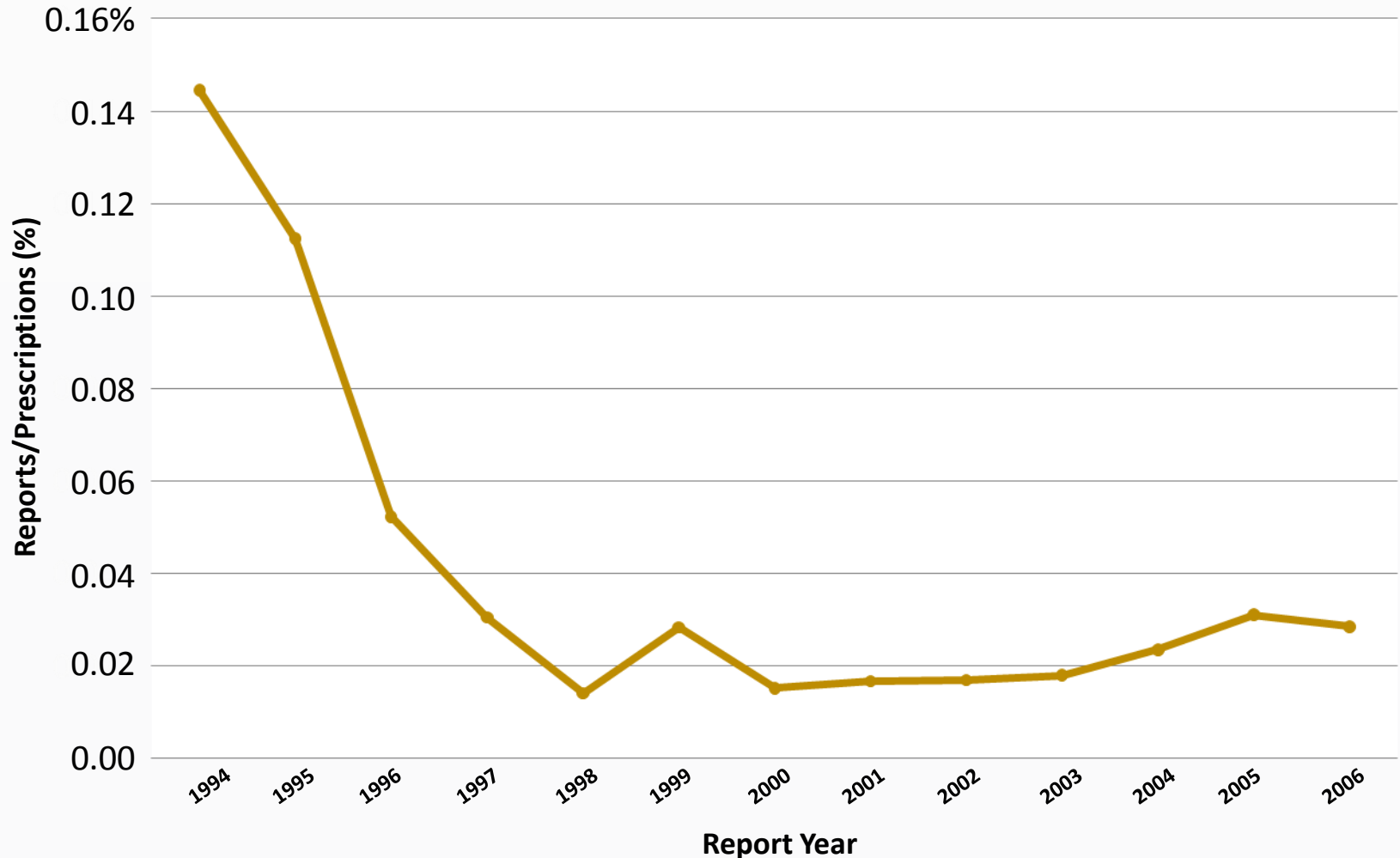
Case 3:05-cv-00444 Document 181-2 Filed 04/27/10 Page 5 of 15 PageID #: 4375

Source: Weiss Expert Report, Figure 1

# Neurontin/Gabapentin Prescriptions Over Time



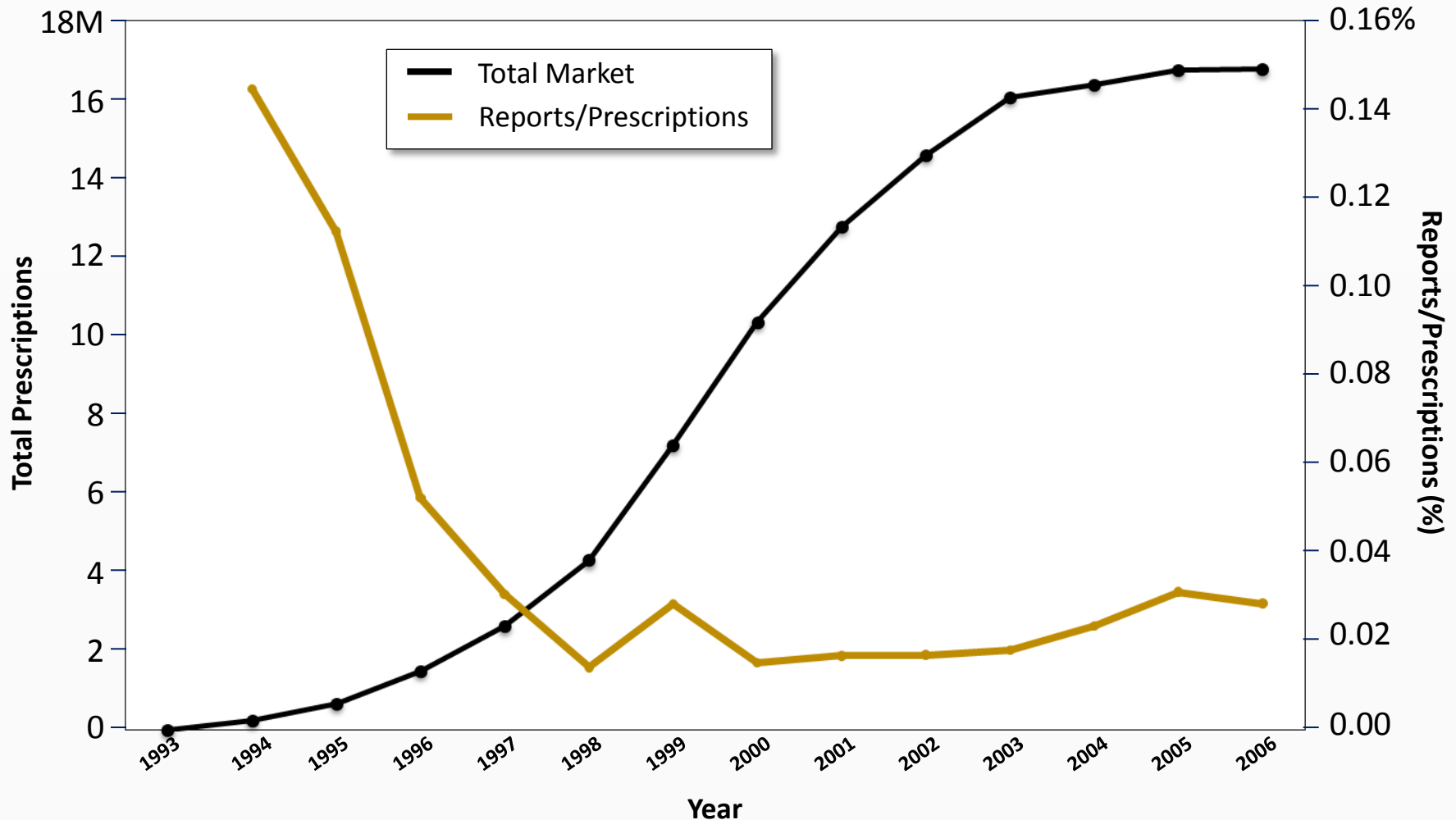
# Gabapentin Reports as a Percentage of Total Prescriptions



Case 3:05-cv-00444 Document 181-2 Filed 04/27/10 Page 7 of 15 PageID #: 4377

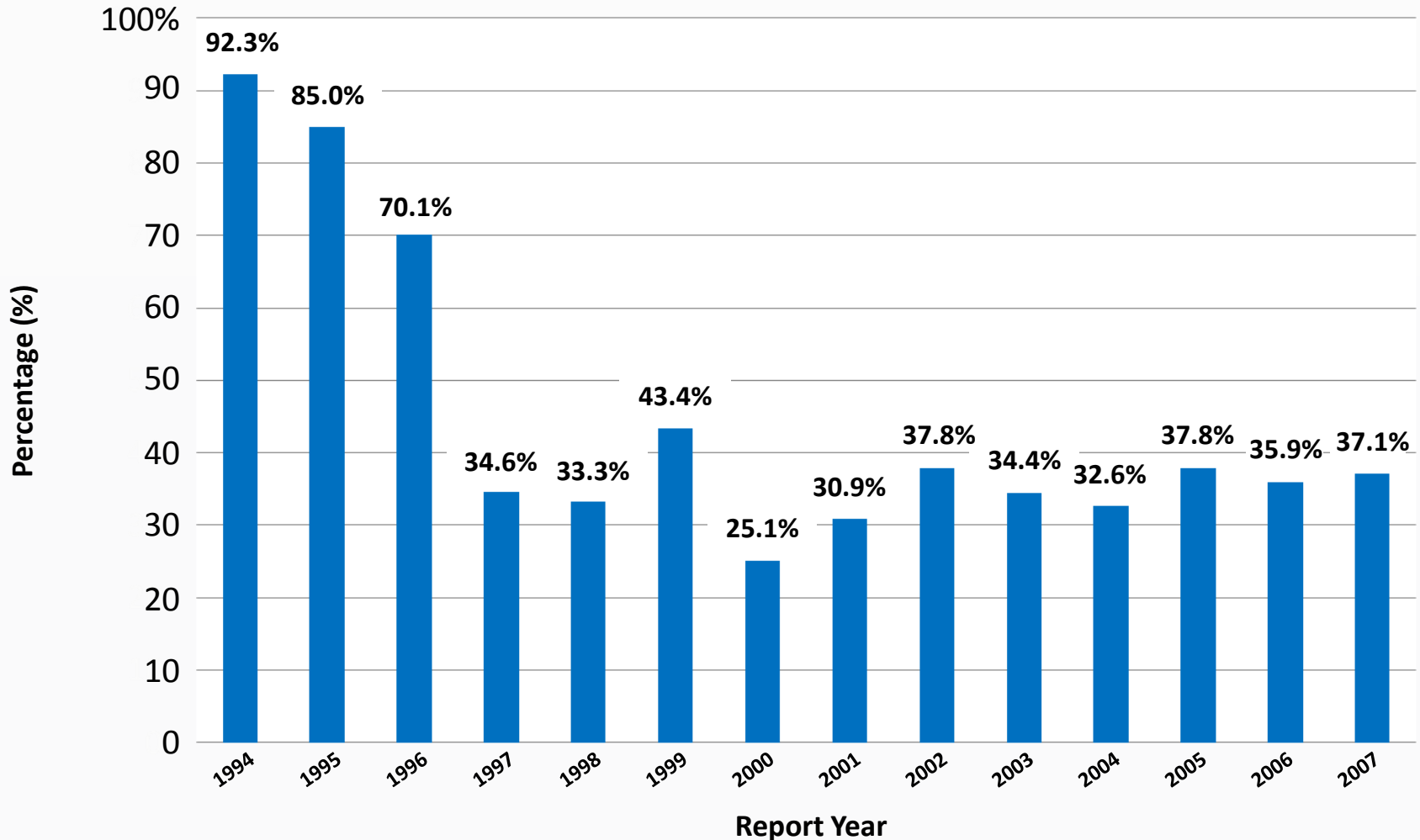
Source: Weiss Expert Report, Figure 3

# Gabapentin Reports Decrease As Prescriptions Increase

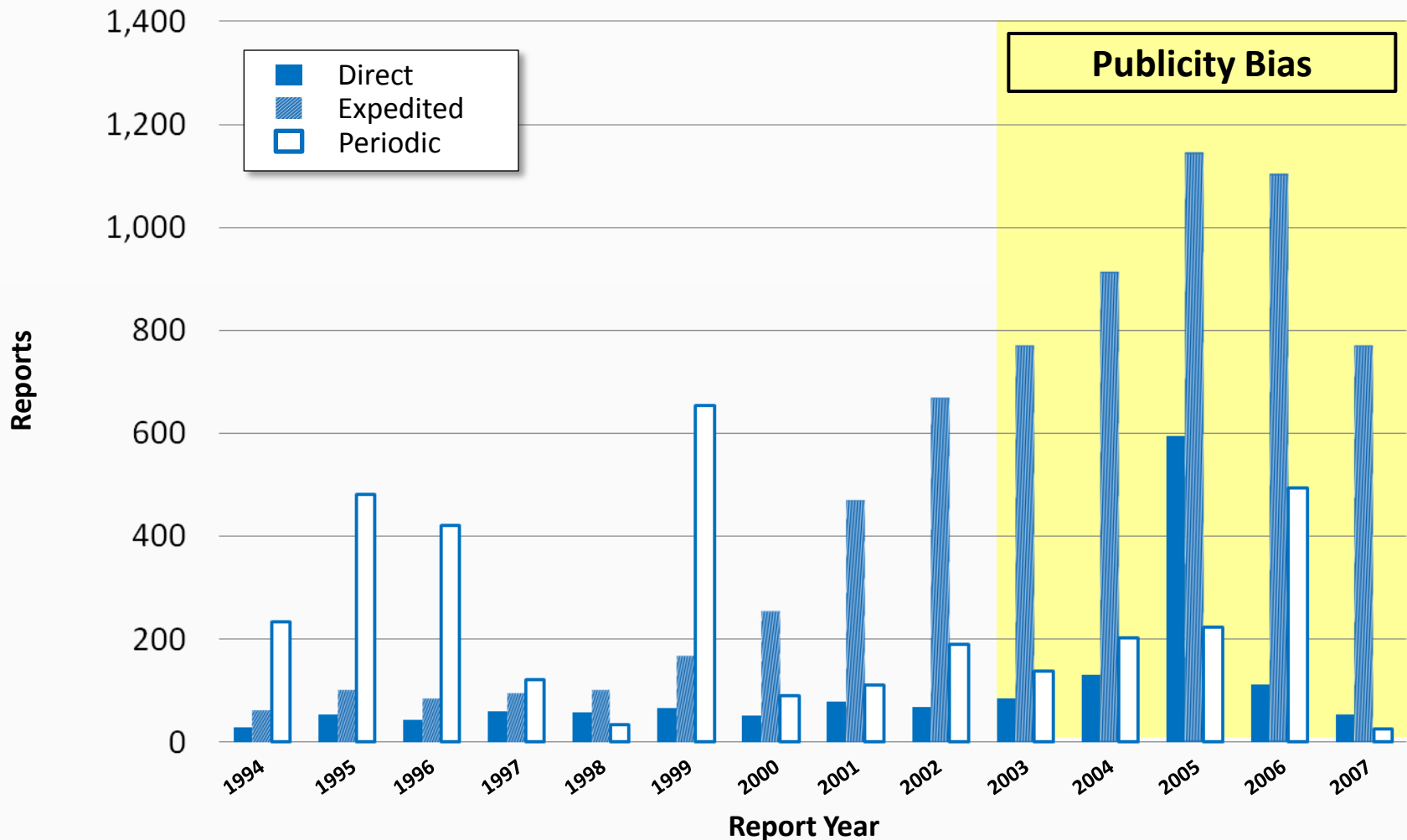




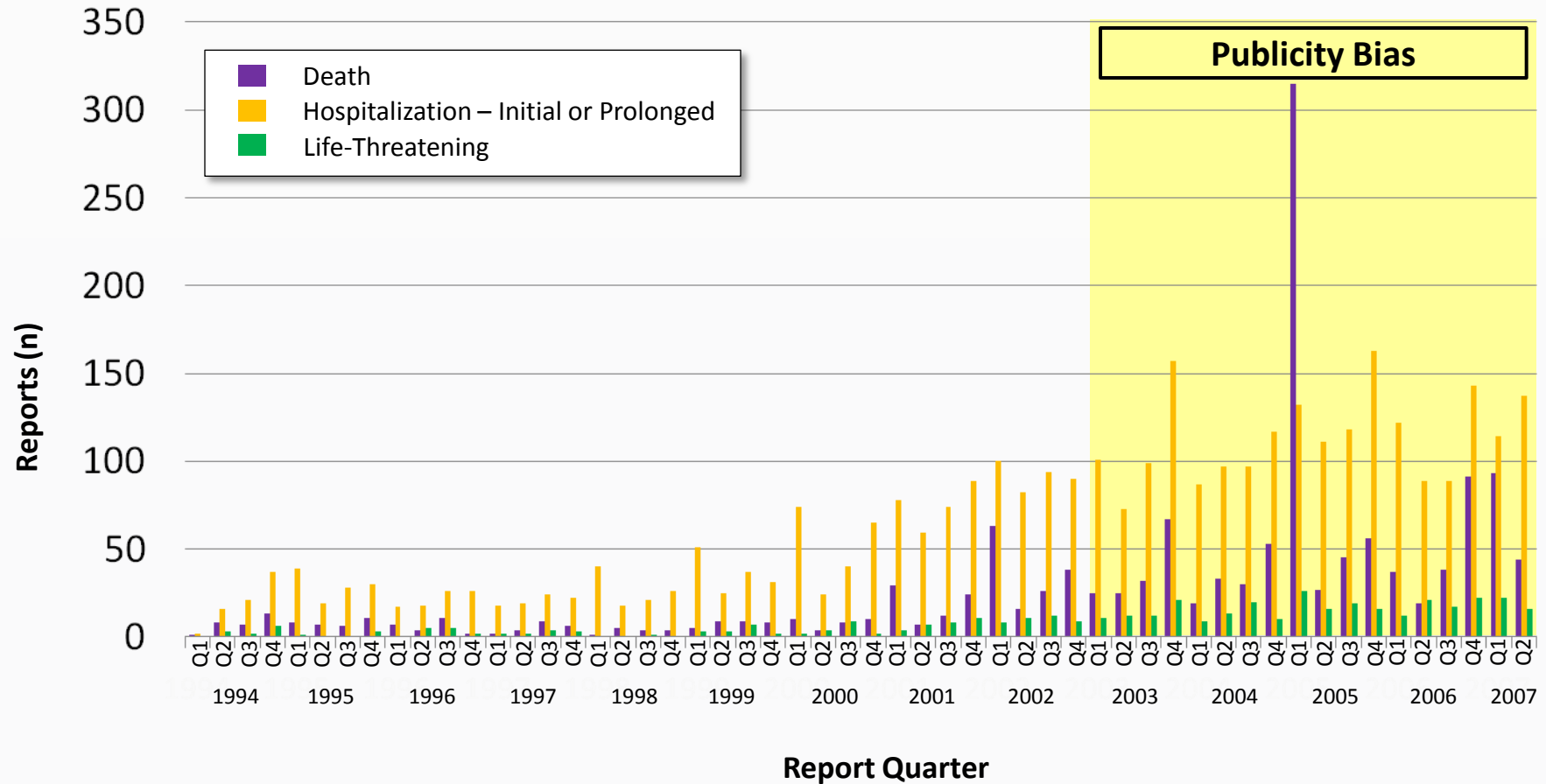
# Proportion of Reports In Which Gabapentin 'Was Suspect'



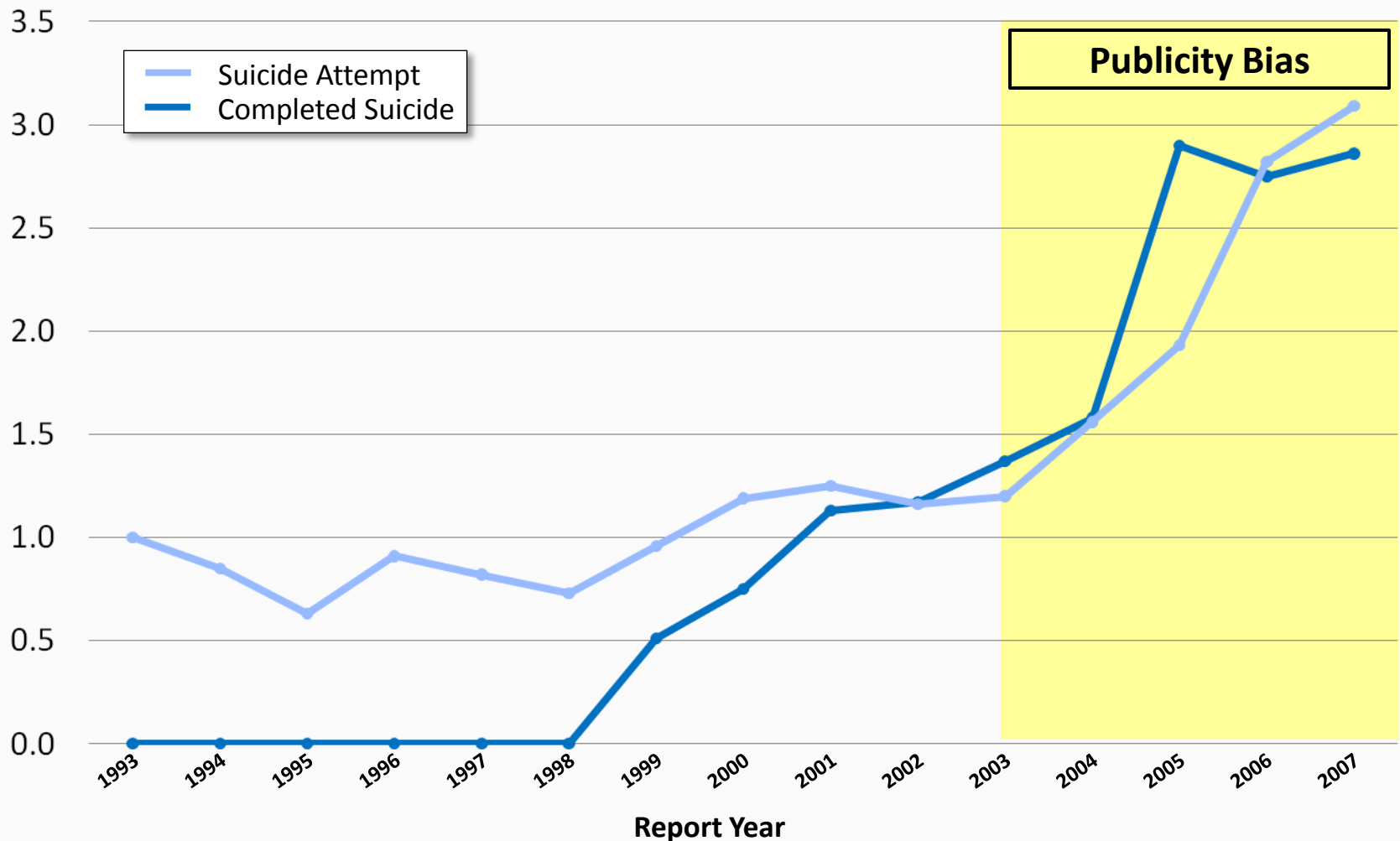
# Gabapentin Reports by Report Type – By Year



# Gabapentin Reports by Report Type – By Quarter



# PRR for Gabapentin: Completed Suicide And Suicide Attempt



# FDA: Controlled Trials Are Only Way to Assess Whether Neurontin Is Associated With Increased Risk of Suicide

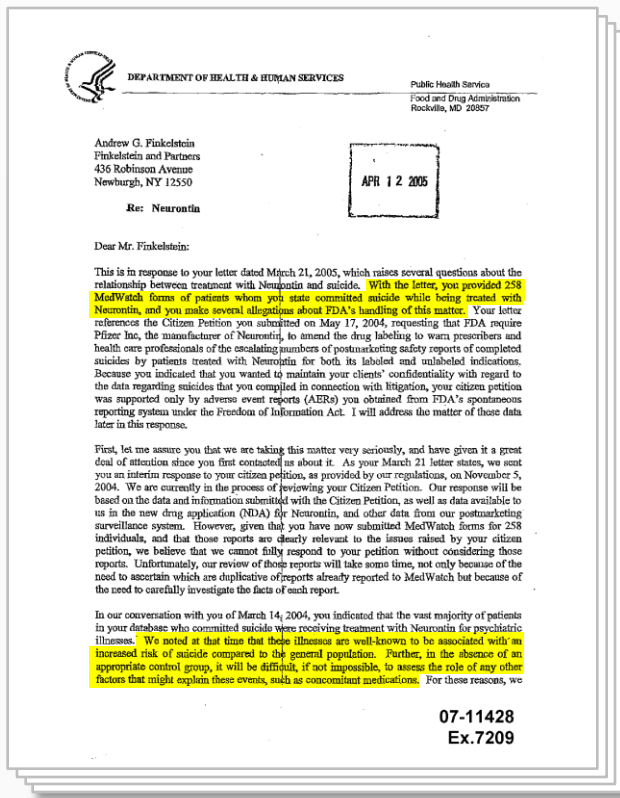
April 12, 2005 Letter From FDA to Plaintiff's Lawyers

With the letter, you provided 258 MedWatch forms of patients whom you state committed suicide while being treated with Neurontin, and you make several allegations about FDA's handling of this matter.

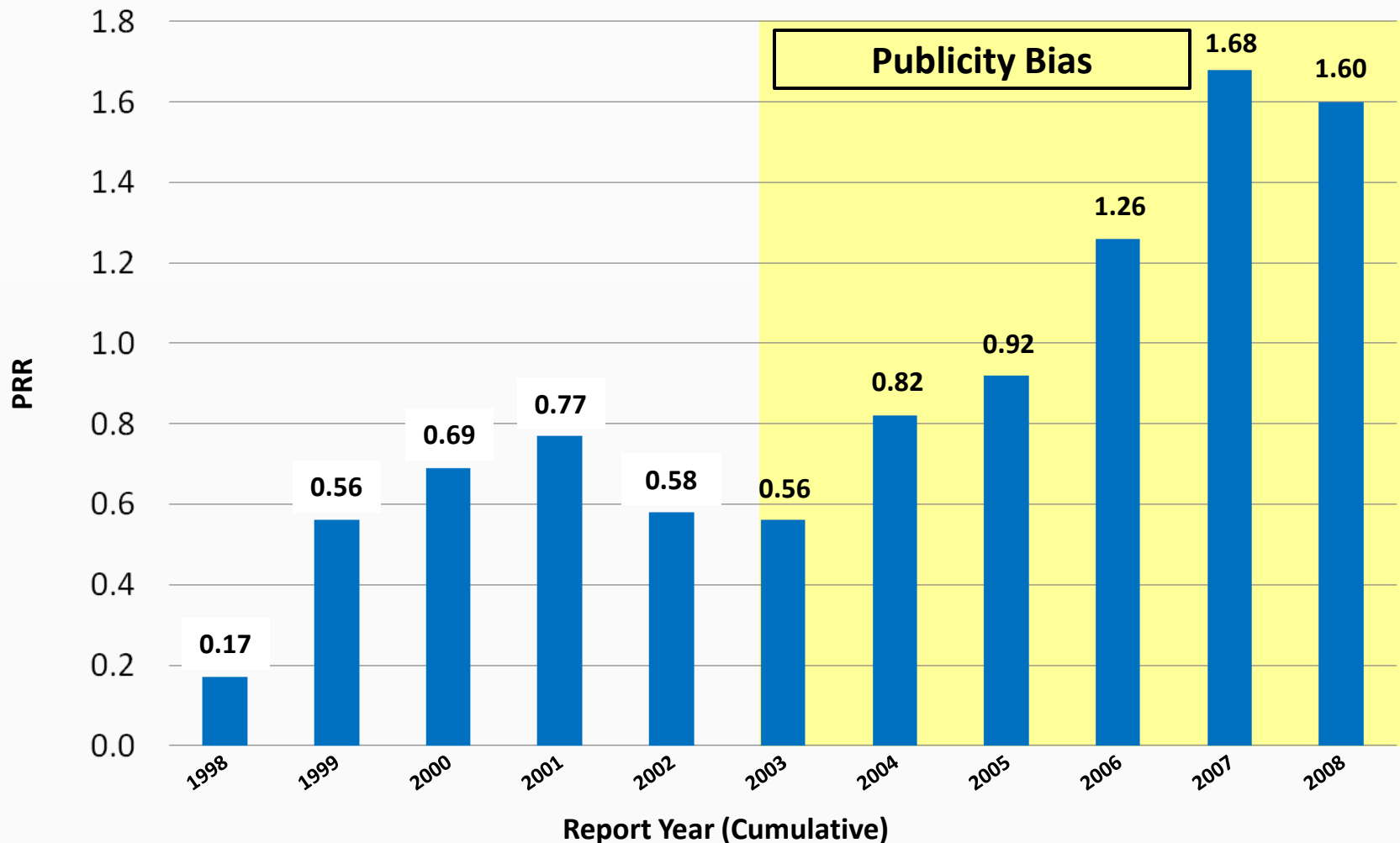
\* \* \*

We noted at that time that these illnesses are well-known to be associated with an increased risk of suicide compared to the general population. **Further, in the absence of an appropriate control group, it will be difficult, if not impossible, to assess the role of any other factors that might explain these events, such as concomitant medications.**

Source: April 12, 2005 Letter from FDA to Andrew G. Finkelstein (emphasis added)

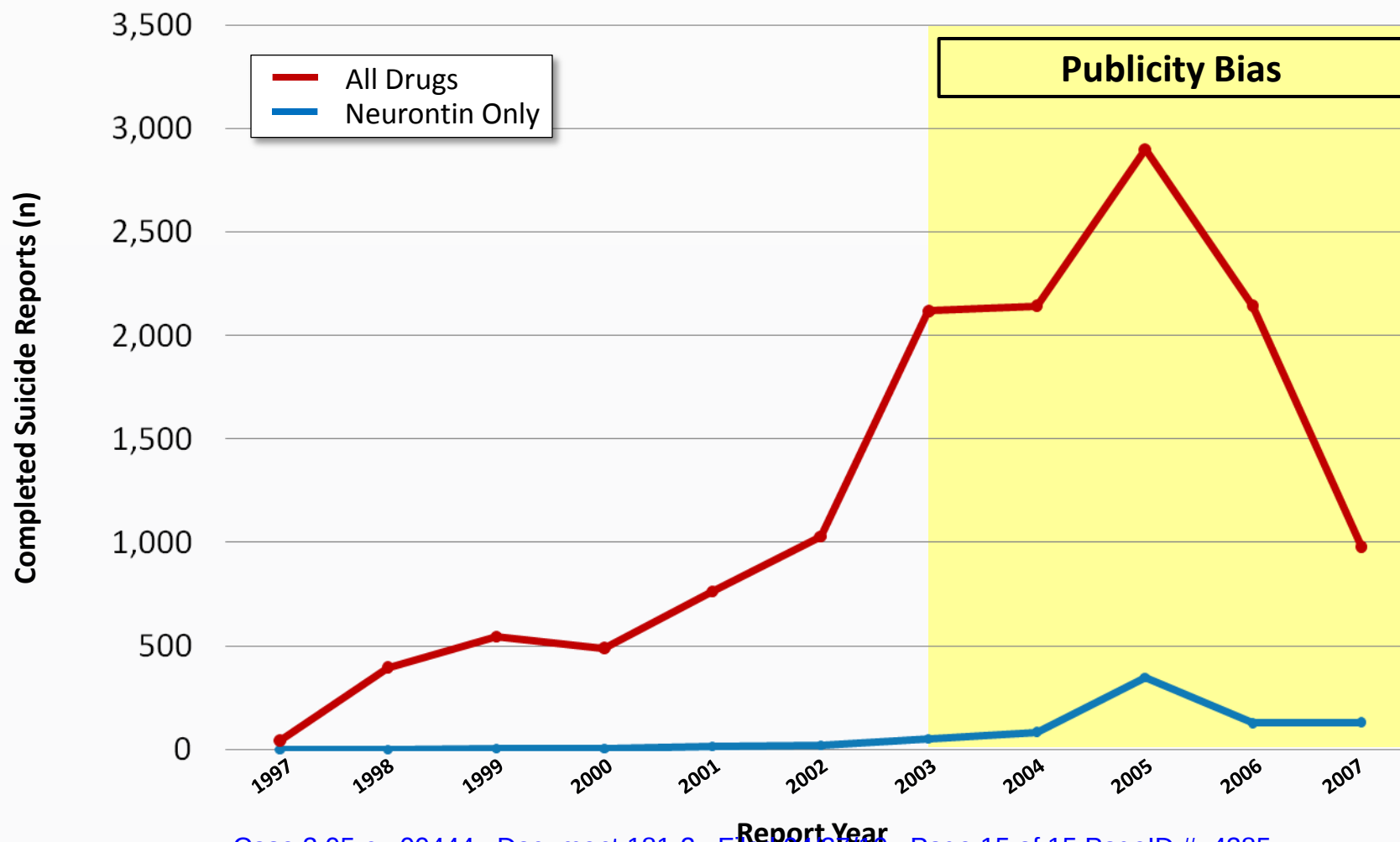


# Gabapentin vs. FDA AED Drugs



# Completed Suicide Reports

## Neurontin vs. All Drugs



Case 3:05-cv-00444 Document 181-2 Filed 04/27/10 Page 15 of 15 PageID #: 4385

Source: Wells Supplemental Expert Report, Figure 3